

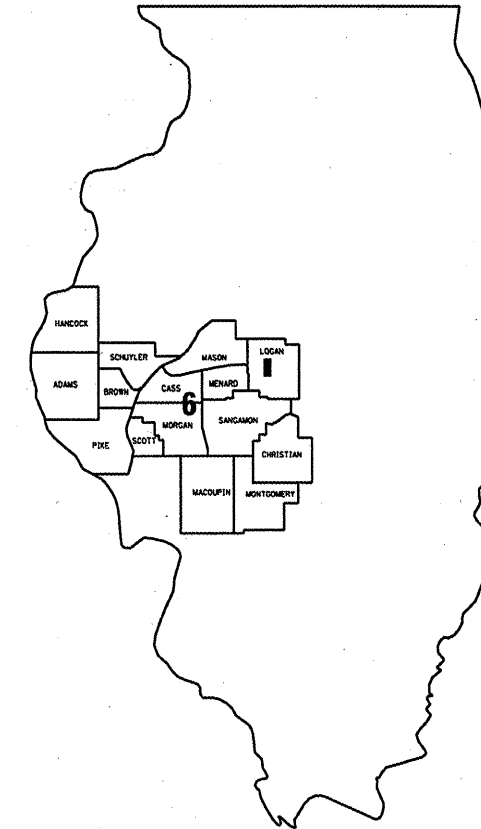
FOR INDEX OF SHEETS AND HIGHWAY
STANDARDS, SEE SHEET 2.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

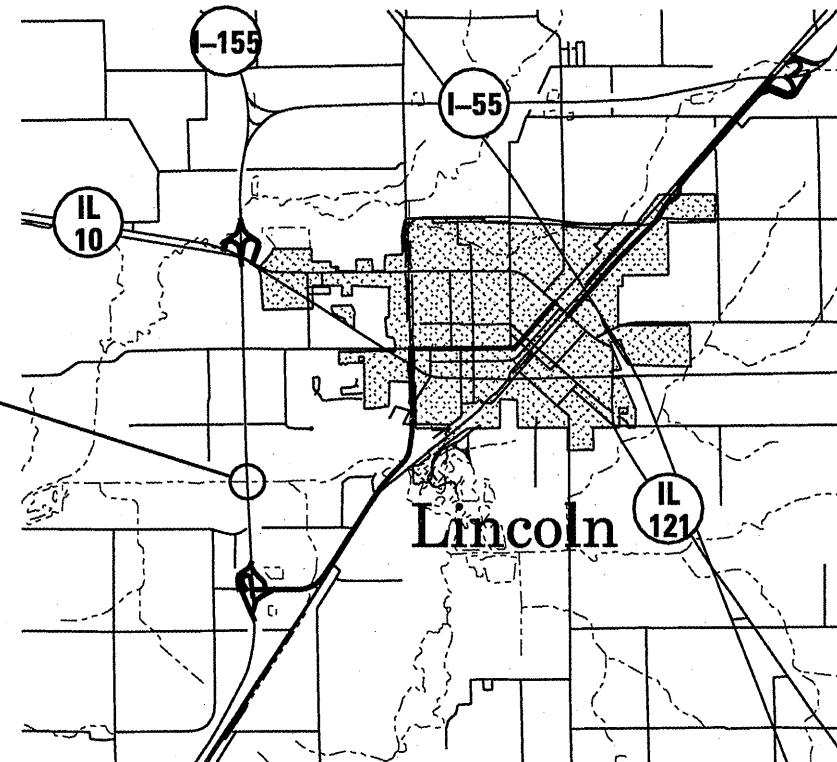
**PLANS FOR PROPOSED
CONTRACT MAINTENANCE**

**FAI ROUTE 55 (I-55)
SECTION 54-3 BJR
LOGAN COUNTY**

C-96-004-10



LOCATION OF SECTION INDICATED THUS: ■



SN 054-0041 (SB)



J. U. L. I. E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

BRIDGE MAINTENANCE ENGINEER: STEVE BERAN
PHONE: (217) 785-9290
BRIDGE INSPECTION ENGINEER: DAVE COPENBARGER
PHONE: (217) 785-5306

NET LENGTH OF SEC 675 FT=0.13 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED April 2 20 10

Reya Zamb
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

May 7 20 10

Scott E. Stitt P.E. /bc
ENGINEER OF DESIGN AND ENVIRONMENT

May 7 20 10

Christine M. Reed /bc
DIRECTOR, DIVISION OF HIGHWAYS

CONTRACT NO. 72D70

INDEX OF SHEETS:

- 1 COVER SHEET
- 2 INDEX, GENERAL NOTES, & STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4 EXISTING PLAN & ELEVATION
- 5-6 TRAFFIC CONTROL PLANS
- 7 EXISTING CROSS SECTIONS
- 8 REMOVAL DETAILS
- 9 PROPOSED REINFORCEMENT
- 10 STRIP SEAL JOINT DETAILS
- 11 BAR SPLICER DETAILS

STANDARDS

- 701101-02
- 701106-02
- 701400-04
- 701402 (SPECIAL)-07
- 701406-05
- 701901-01
- 704001-06

GENERAL NOTES:

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GR 60. SEE SPECIAL PROVISIONS.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED UPON THE UNIT PRICE BID FOR THE WORK.

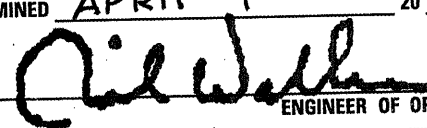
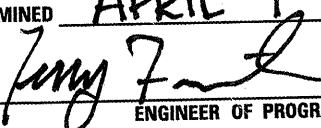

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 520.04 OF THE STD SPECS WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50 DEG F.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR LOOSE RUST, LOOSE MILL SCALE, AND OTHER LOOSE OR POTENTIALLY DETRIMENTAL FOREIGN MATERIAL SHALL BE REMOVED FROM THE SURFACES IN CONTACT WITH CONCRETE. TIGHTLY ADHERED PAINT MAY REMAIN UNLESS OTHERWISE NOTED. REMOVAL SHALL BE ACCOMPLISHED BY METHODS THAT WILL NOT DAMAGE THE STEEL AND THE COST WILL BE INCLUDED IN THE PAY ITEM COVERING REMOVAL OF EXISTING CONCRETE.

THE DECK SURFACE SHALL HAVE ITS FINAL FINISH TINED ACCORFDING TO ARTICLE 420.09(E)(1) OF THE STANDARD SPECIFICATIONS. COST INCLUDED WITH CONCRETE SUPERSTRUCTURE

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6		
EXAMINED	APRIL 1	20 10
 ENGINEER OF OPERATIONS		
EXAMINED	APRIL 1	20 10
 ENGINEER OF PROGRAM IMPLEMENTATION		
EXAMINED	April 2	20 10
 ENGINEER OF PROGRAM DEVELOPMENT		

ASPHALT MIXTURE TABLE

MIX USE	PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION (GRADATION MIXTURE)	FRICTION AGGREGATE
HMA SHLDR.	PG64-22	4.0% @ N DESIGN = 50	IL 9.5 OR 12.5	MIX "C"

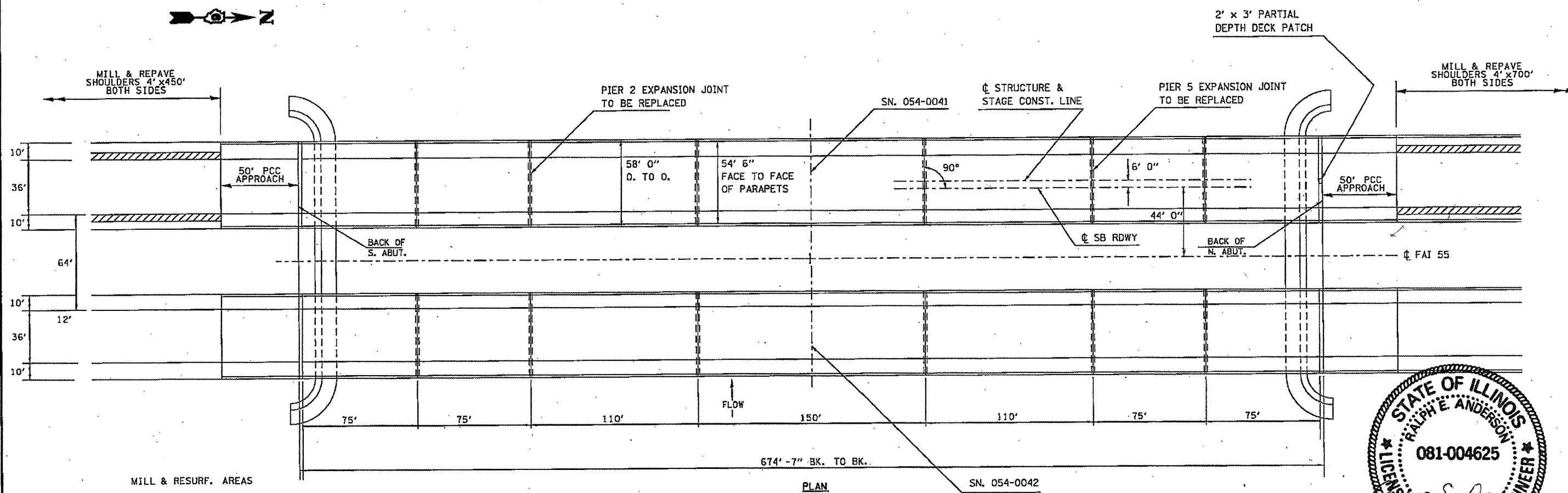
INDEX & GENERAL NOTES
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY

S U M M A R Y O F Q U A N T I T I E S

CODE NO.	ITEM	UNIT	100% STATE
			SFTY-2A
			TOTAL QTY
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.4
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	1022
48203100	HOT-MIX ASPHALT SHOULDERS	TON	115
50102400	CONCRETE REMOVAL	CU YD	27
50300255	CONCRETE SUPERSTRUCTURE	CU YD	27
50300300	PROTECTIVE COAT	SQ YD	44
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2990
50800515	BAR SPLICERS	EACH	32
52000110	PREFORMED JOINT STRIP SEAL	FOOT	122
67100100	MOBILIZATION	L SUM	1
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2
70400100	TEMPORARY CONCRETE BARRIER	FOOT	900
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	900
X7010820	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)	L SUM	1
* X7800620	URETHANE PAVEMENT MARKING - LINE 5"	FOOT	4800
XZ030256	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1
XZ030260	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	0.7

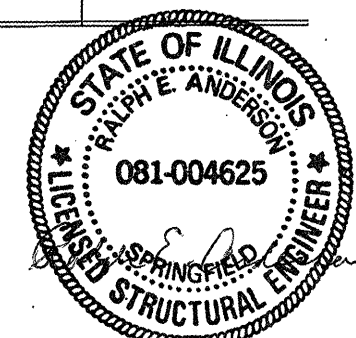
* SPECIALTY ITEM

QUANTITIES
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



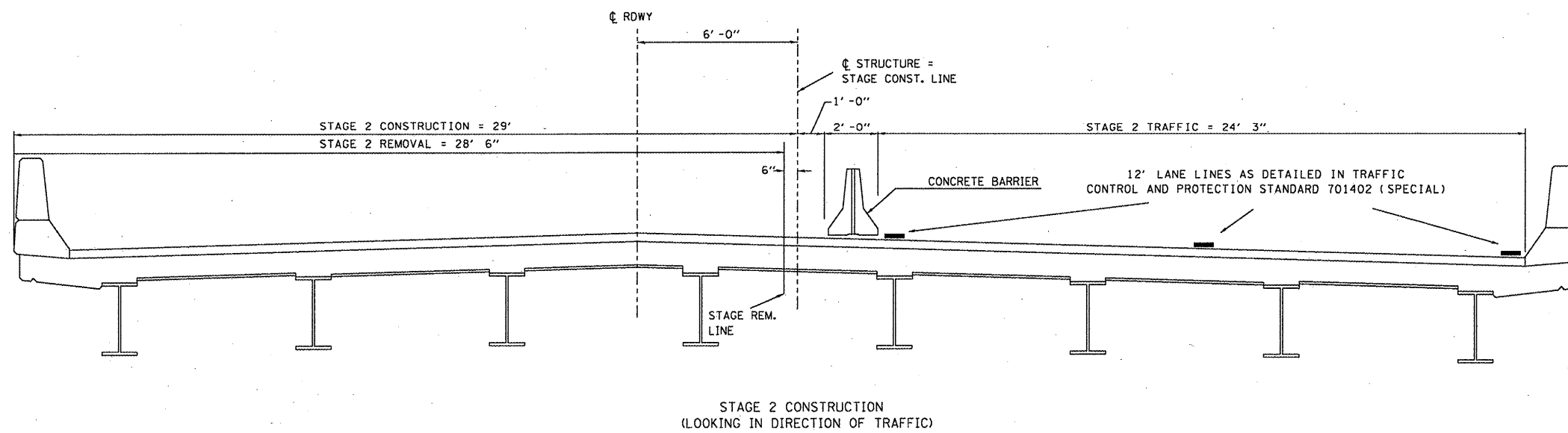
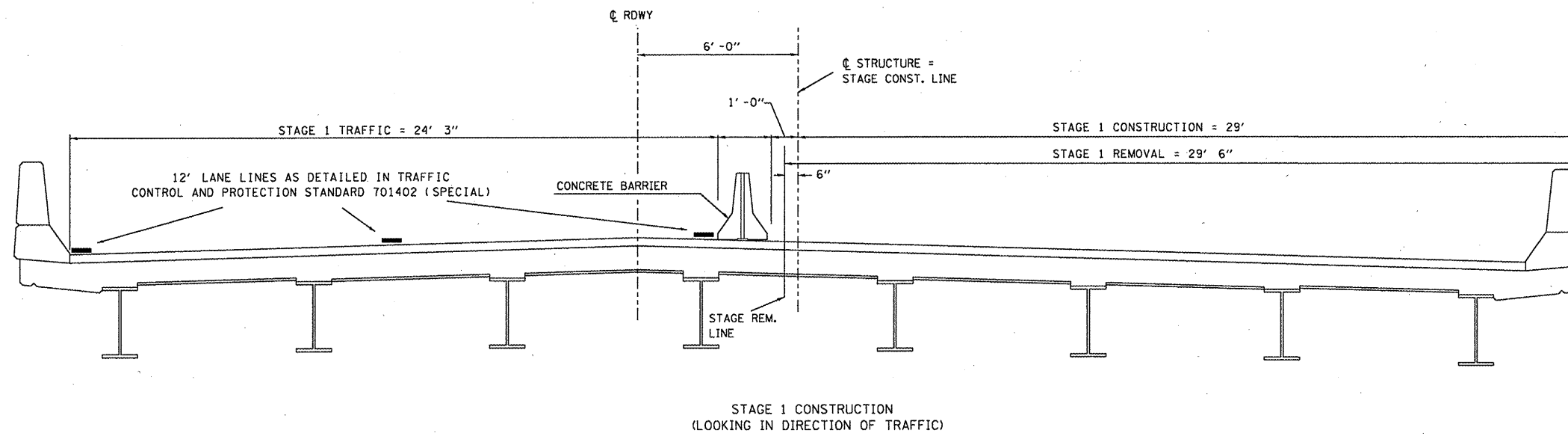
MILL & RESURF. AREAS

NOTE:
SHOULDER AREAS TO BE MILLED SHALL BE FROM THE EDGE OF PAVEMENT OUTWARD 4' AND SHALL REMOVE THE EXISTING RUMBLE STRIPS. THE MILLING DEPTH SHALL BE 2". THE SHOULDER WORK SHALL BE COMPLETED PRIOR TO IMPLEMENTING THE LANE SHIFT DETAILED BY TRAFFIC CONTROL AND PROTECTION STANDARD 701402 (SPECIAL).

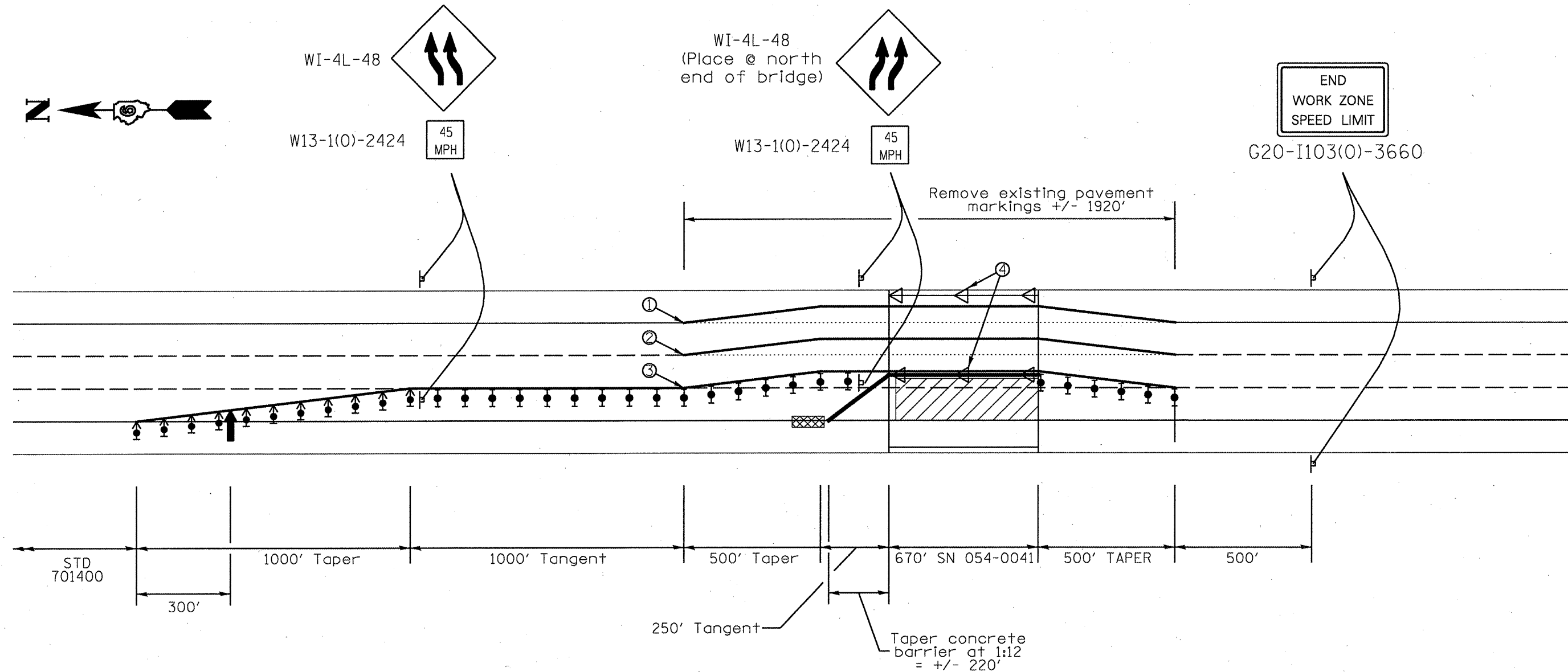


Expires 11/30/2010


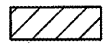






PLAN & ELEVATION
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



STAGING DETAIL
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



SYMBOLS

-  Arrow board
-  Work area
-  Sign
-  Direction indicator barricade with steady burn monodirectional light
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light
-  Temporary concrete barrier
-  Monodirectional barrier wall/guardrail marker
-  Impact attenuator

Notes:

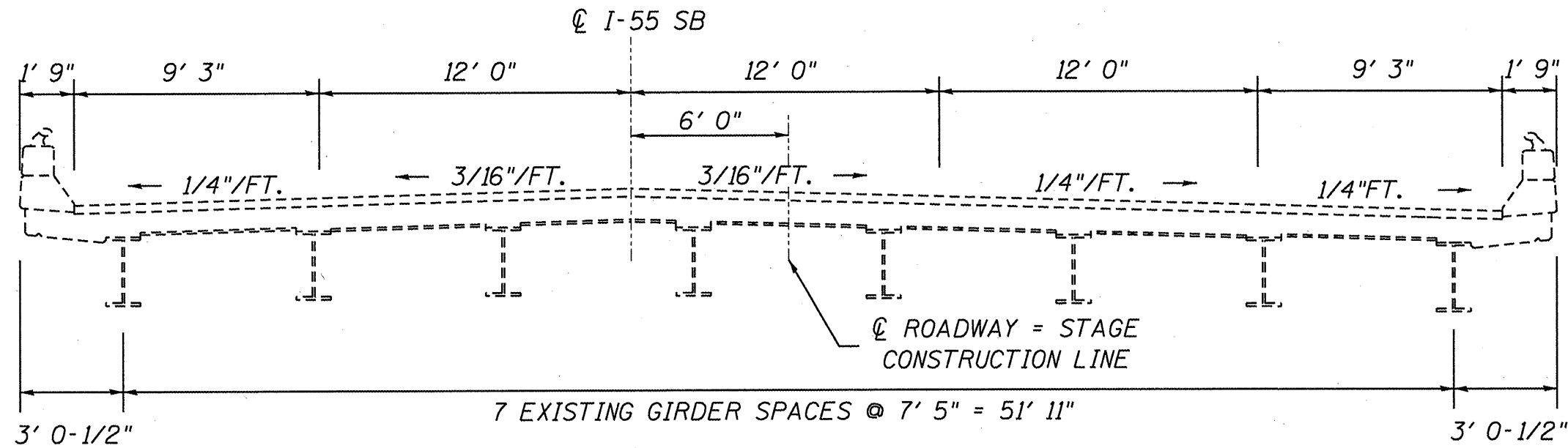
Stage 1 and 2 traffic control plans shall be similar, but mirrored.

All barricades shall be placed at 50' cts.

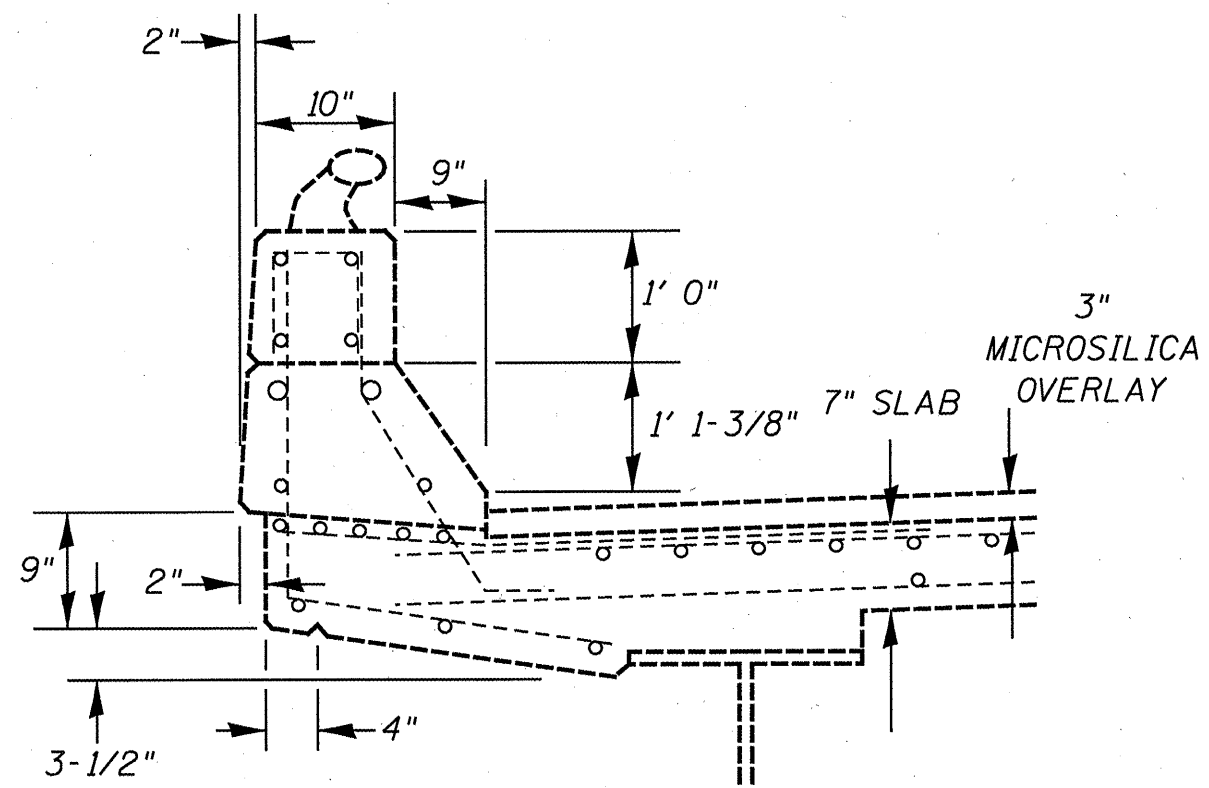
All work shown on this sheet shall be paid for under Traffic Control and Protection, Standard 701402 (Special) except for the concrete barrier wall and impact attenuator.

- ① Temp. Pavt. Marking Tape, Type 3, Yellow
- ② Temp. Raised Pavt. Markings @ 25' cts, White & Temp. Pavt. Marking Tape, Type 3, White (Solid)
- ③ Temp. Pavt. Marking Tape, Type 3, White
- ④ Barrier wall markers at 25'. Markers on right shall be crystal and markers on left shall be amber.

TRAF. CTRL. STD. 701402 SPC.
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY

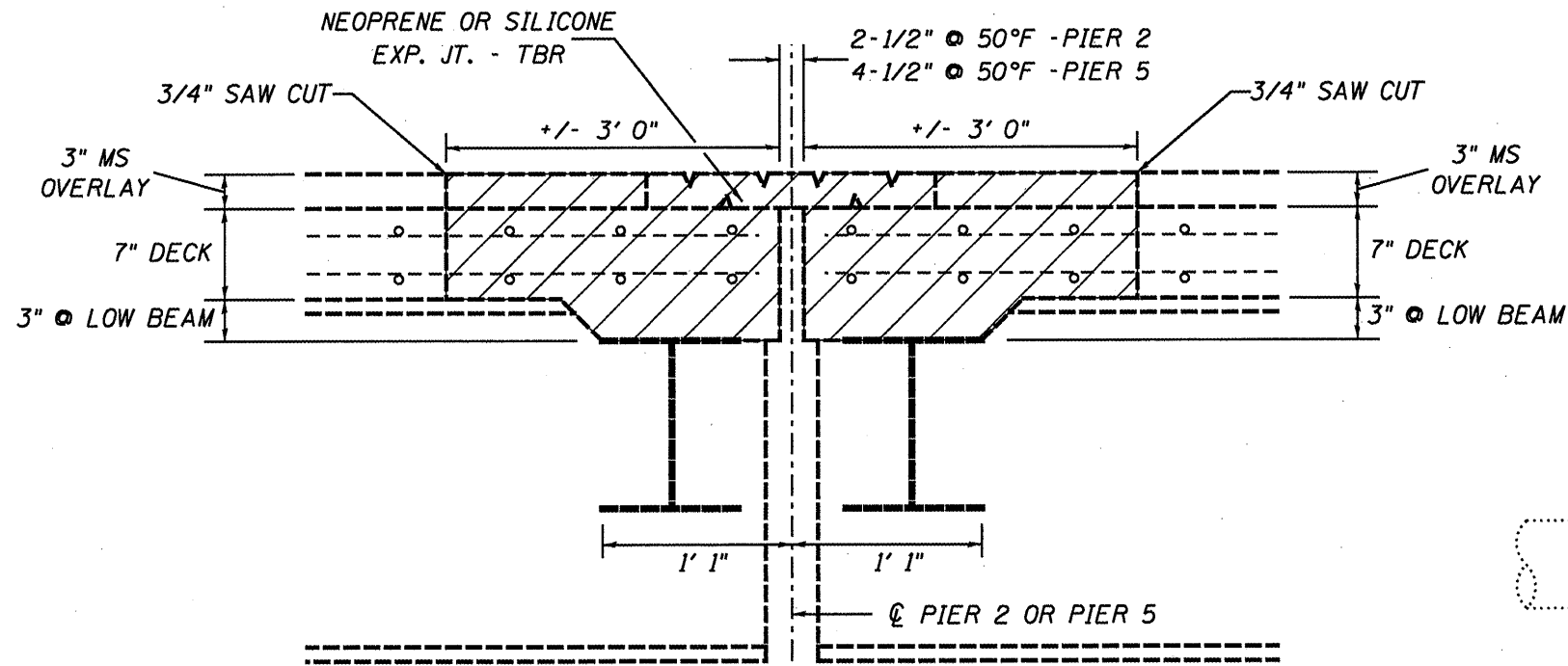


**EXISTING CROSS SECTION
(LOOKING SOUTH)**



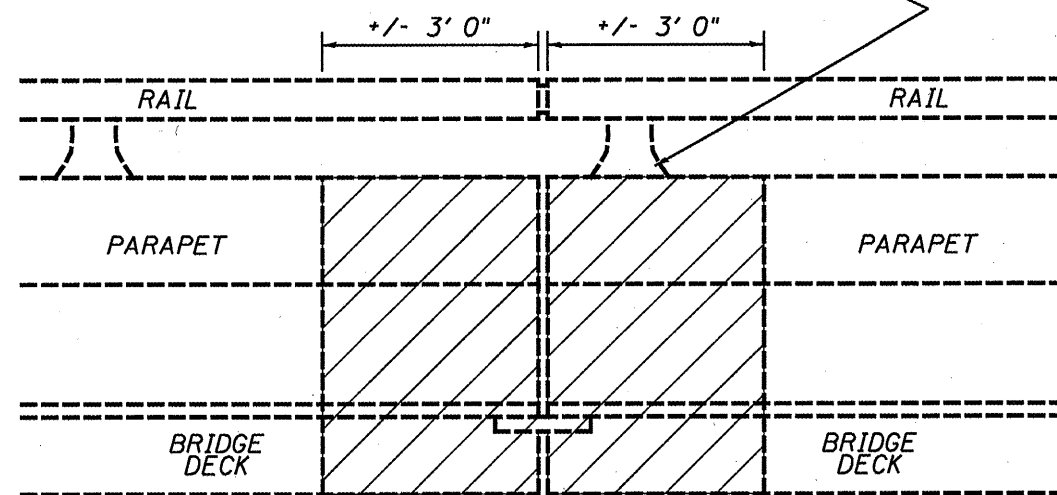
**TYPICAL PARAPET
CROSS SECTION**

EXISTING CROSS SECTIONS
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



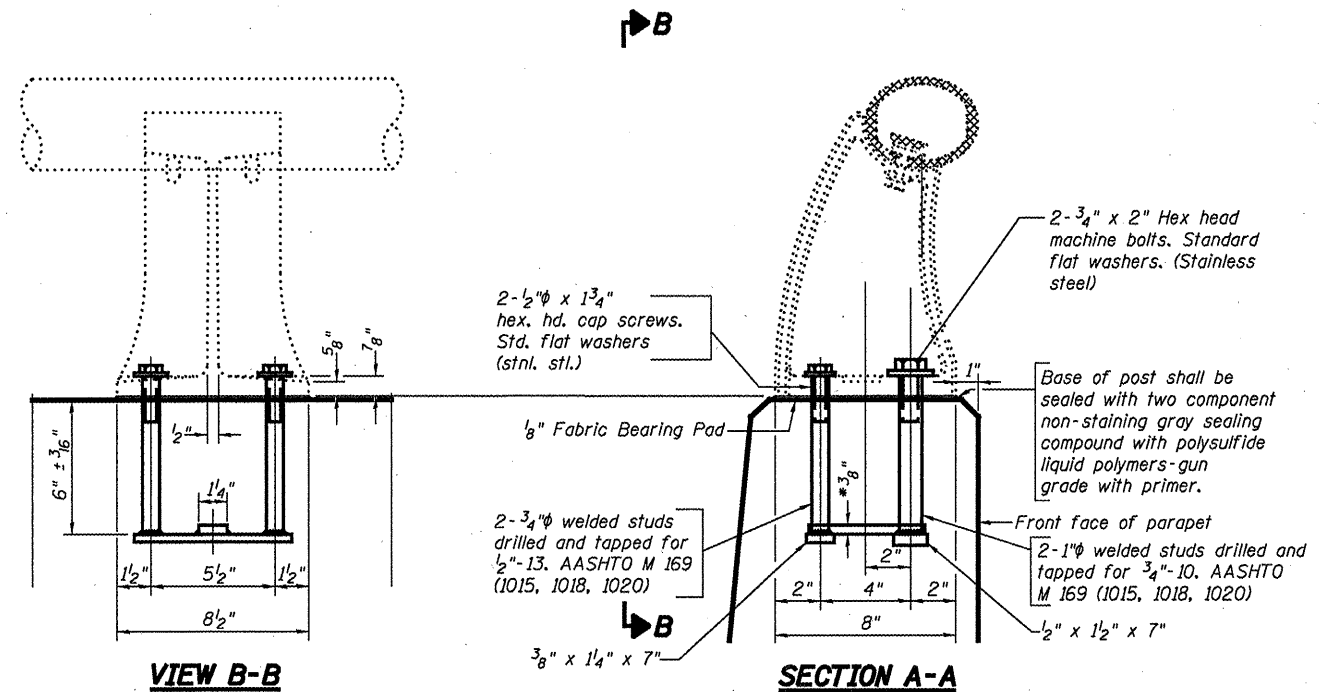
TYPICAL JOINT CROSS SECTION

EXISTING RAIL POSTS IN AREA OF REMOVAL TO BE REMOVED, STORED, AND REINSTALLED. SEE RAIL POST DETAILS.



TYPICAL ELEVATION VIEW, INSIDE PARAPET FACE

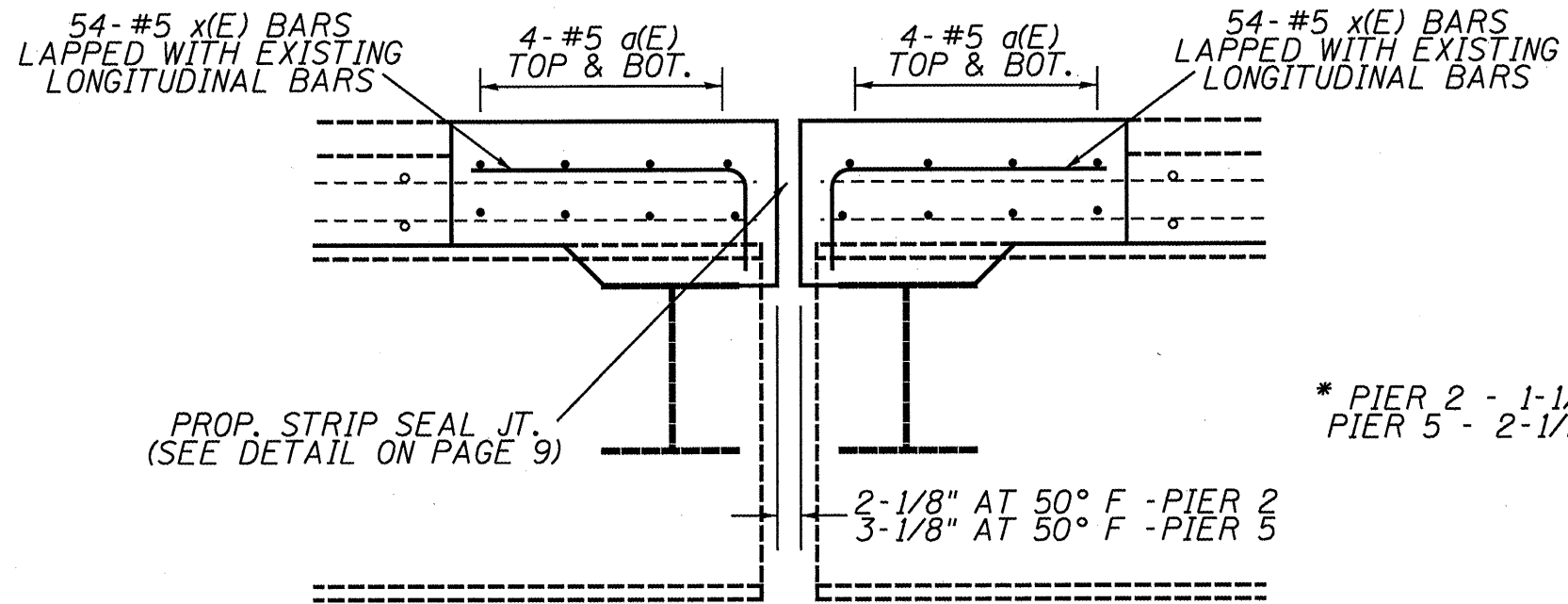
NOTE: THE REMOVAL AREA SHALL BE DEFINED BY THE EXISTING COLD JOINT BETWEEN THE EXISTING EXPANSION JOINT CONCRETE AND THE EXISTING MICROSILICA BRIDGE DECK. 3' 0" WAS USED FOR QUANTITY CALCULATIONS.



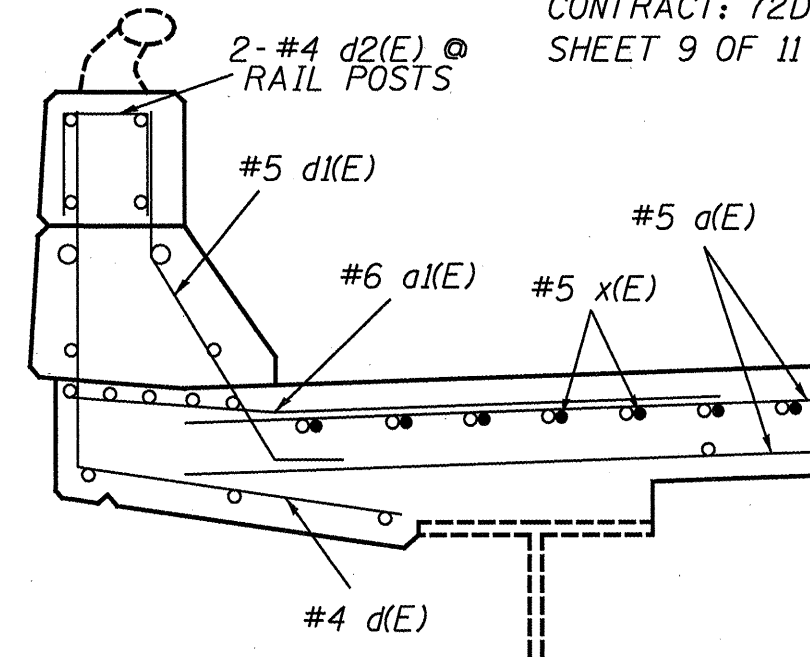
RAIL POST DETAILS

Notes:
All Posts shall be normal to parapet.
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.
Removal and re-erection of the existing aluminum handrail, rail post, and all new applicable hardware, including labor and installation shall be included in the cost of Concrete Removal.

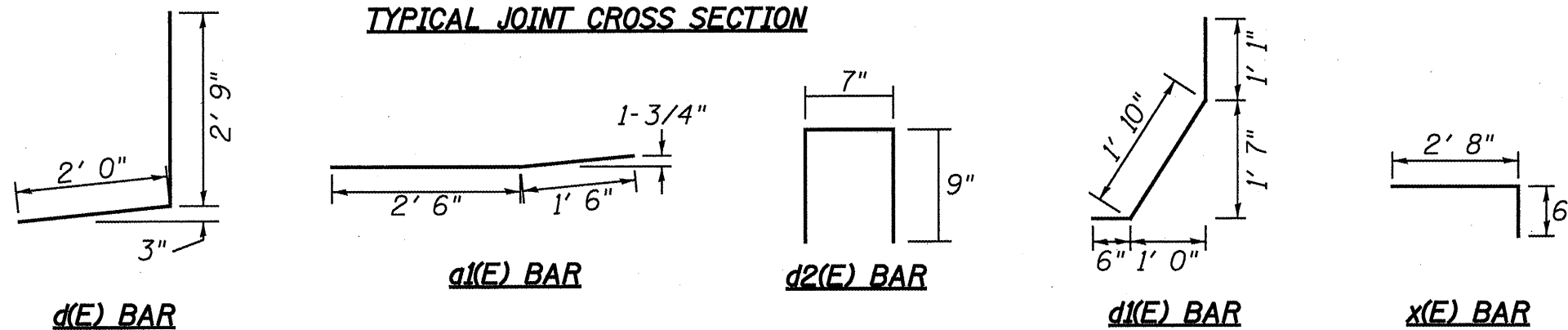
CONCRETE REMOVAL DETAILS
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



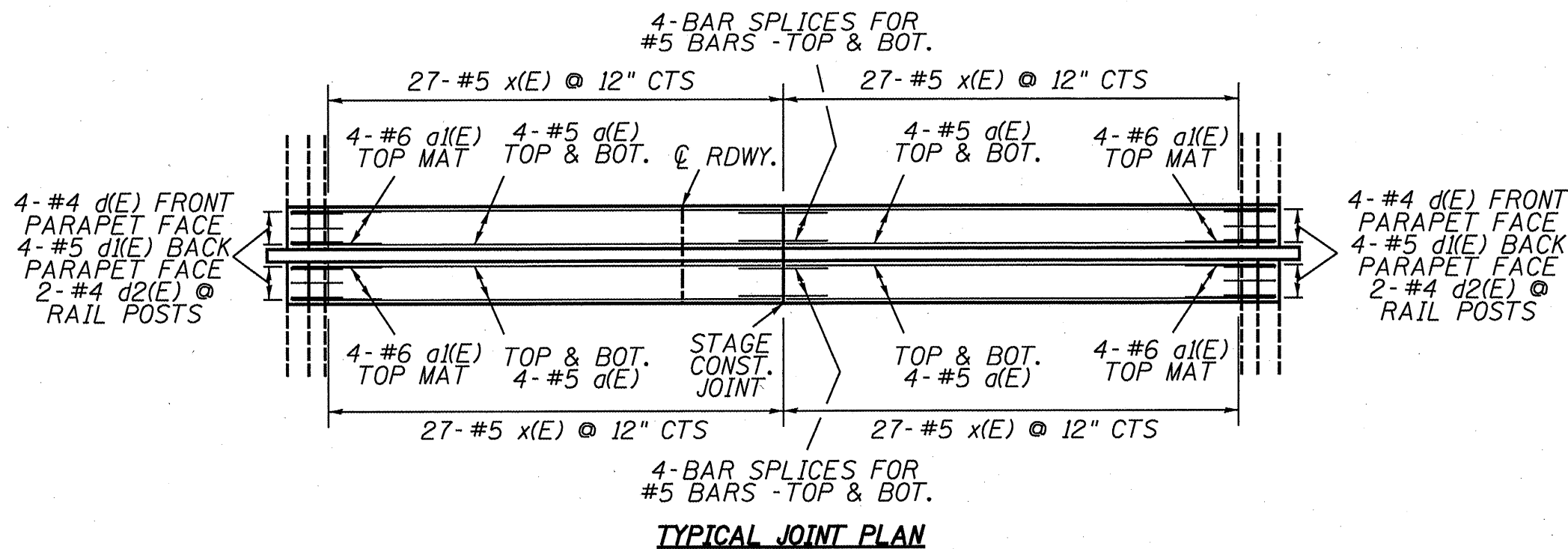
* PIER 2 - 1-1/2" @ 50°
PIER 5 - 2-1/2" @ 50°



TYPICAL PARAPET CROSS SECTION

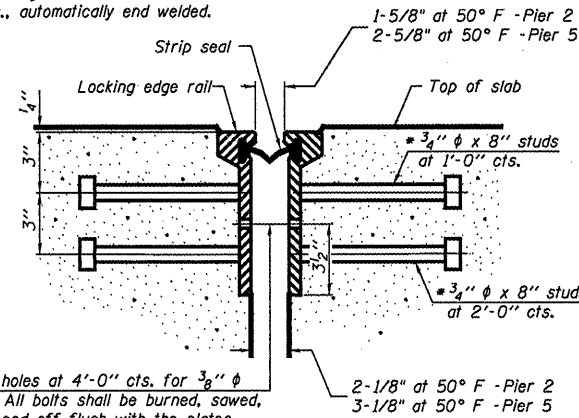


BILL OF MATERIAL (4 JOINTS)				
BAR	#	SIZE	LENGTH	SHAPE
a(E)	64	#5	27' 10"	—
a1(E)	32	#6	4' 0"	—
d(E)	32	#4	4' 9"	J
d1(E)	32	#5	3' 5"	J
d2(E)	8	#4	2' 1"	Π
x(E)	216	#5	3' 2"	—
REINFORCEMENT BARS EPOXY COATED			2990 LB	
#5 BAR SPLICERS			32 EACH	
CONC. SUPERSTRUCTURE			27 CU YD	



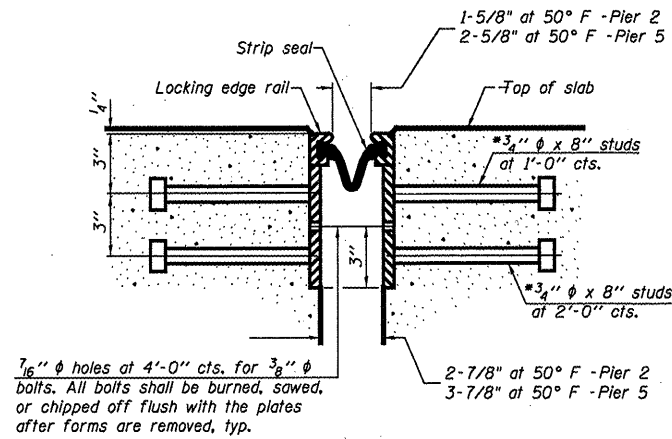
CONCRETE REMOVAL DETAILS
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



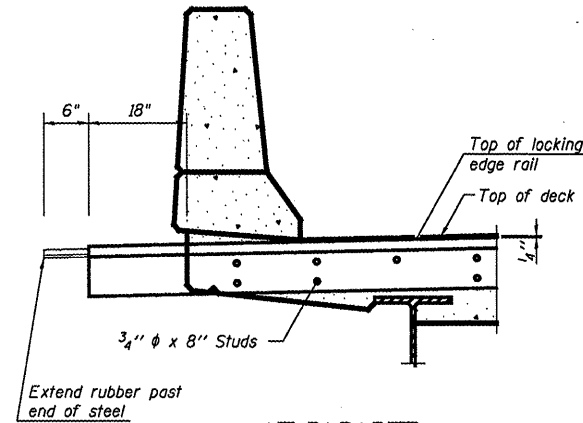
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

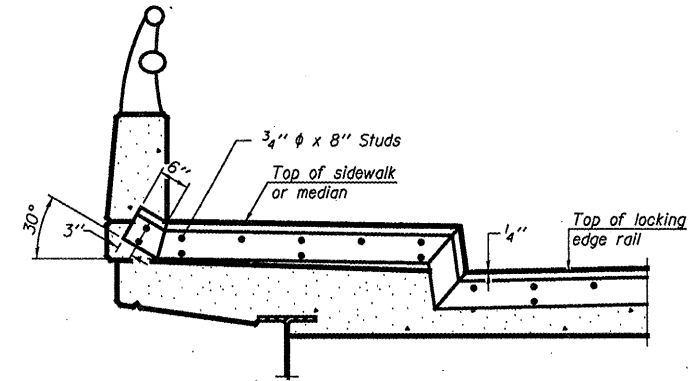


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

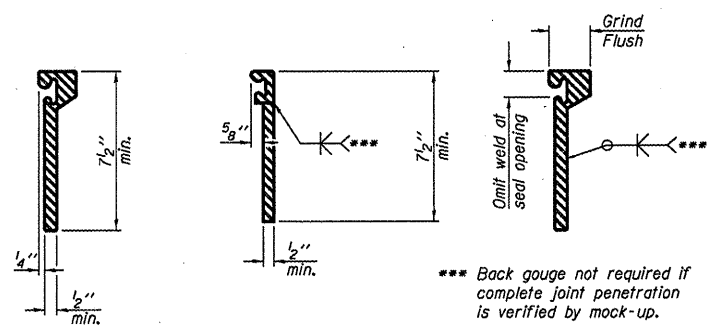
SECTION THRU WELDED RAIL JOINT



AT PARAPET
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

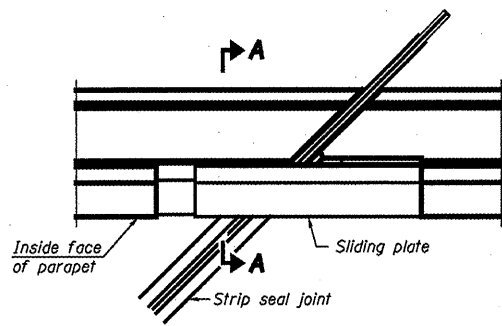


ROLLED EXTRUDED RAIL **WELDED RAIL**

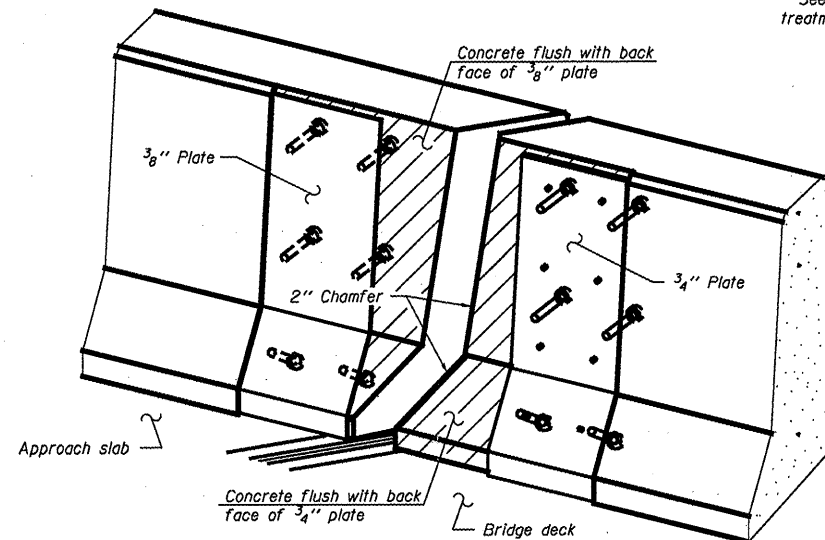
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

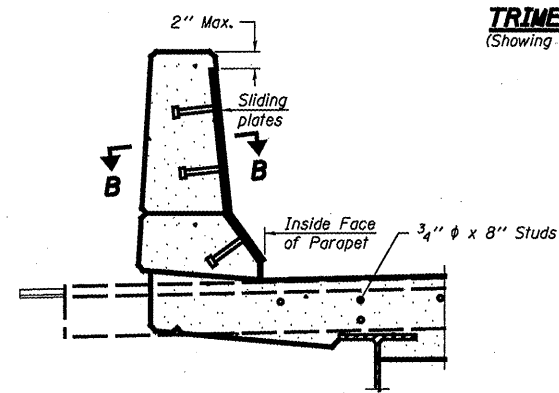
LOCKING EDGE RAILS



PLAN

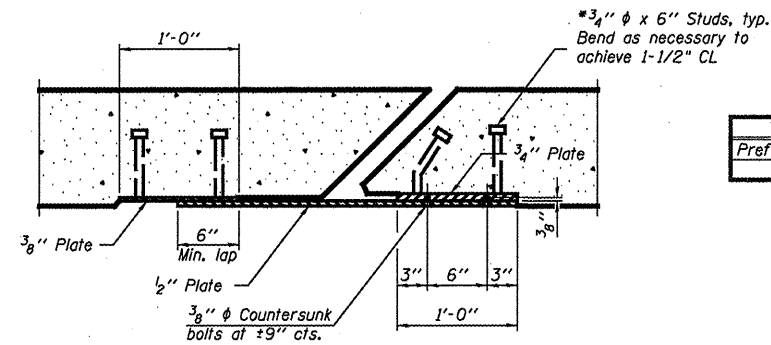


TRIMETRIC VIEW
(Showing back plates only)



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

TYPICAL END TREATMENTS

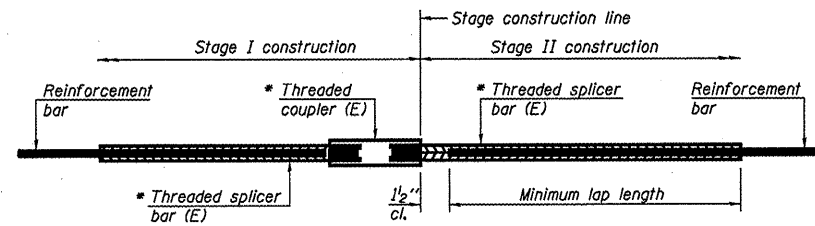
Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
The manufacturer's recommended installation methods shall be followed.
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	122

PREFORMED JOINT STRIP SEAL STRUCTURE NO.

STRIP SEAL JOINT DETAILS
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY



STANDARD BAR SPLICER ASSEMBLY

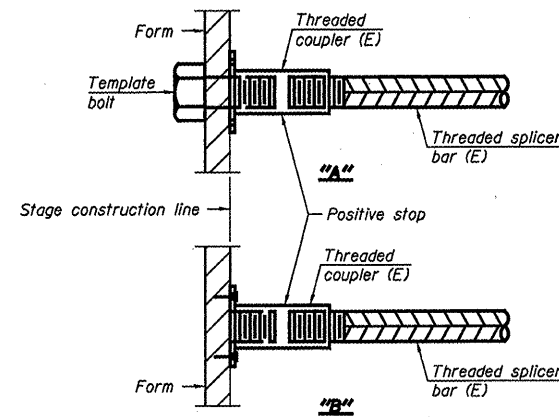
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, O.B Class C
Table 2: Black bar, Top bar lap, O.B Class C
Table 3: Epoxy bar, O.B Class C
Table 4: Epoxy bar, Top bar lap, O.B Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

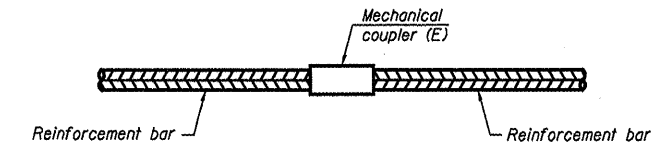
Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



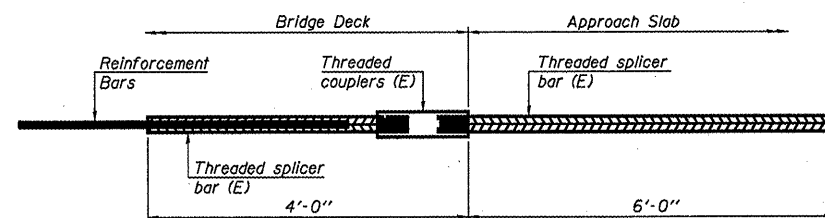
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.



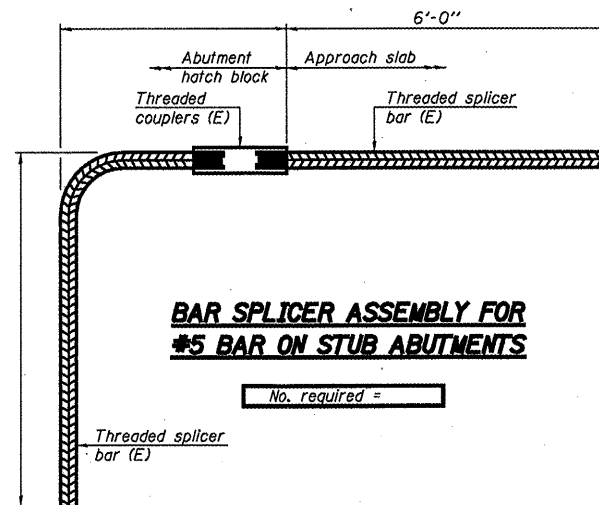
STANDARD MECHANICAL SPLICER

Location @ Joint	Bar size	No. assemblies required
	#5	32



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER DETAILS
SN 054-0041
EXP. JT. REPLACEMENT
LOGAN COUNTY